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have done, I know not. Suffice it, that the fact wars against the French encyclopædists, and others, who have asserted this island to remain desert and uninhabited—‘à cause de la quantité extraordinaire de serpens qui s’y trouvent ;’ and where, then, are we to look for the *Ophiusa* of the ancients, but in the Columbretes?

VI.—*Account of the Island of Deception, one of the New Shetland Isles.* Extracted from the private Journal of Lieutenant Kendal, R.N., embarked on board his Majesty's sloop Chanticleer, Captain Forster, on a scientific voyage; and communicated by John Barrow, Esq., F.R.S. Read 24th January, 1831.

[THE New Shetland Isles are a cluster recently discovered, or, more correctly speaking, re-discovered, by Mr. Smith, a master in the Royal Navy. Dirck Gheritz, who commanded one of five ships which sailed from Rotterdam in 1598, to make a western passage to India, was separated from his companions off Cape Horn, and carried, by tempestuous weather, as far as latitude 64° S., where he discovered a high country, with mountains covered with snow, resembling the coast of Norway; and there can be no doubt that this was the group of islands in question. They seem to be a continuation of the Cordillera of the Andes, and Archipelago of Tierra del Fuego; being, for the most part, precisely of the same formation with the latter—their strata even inclining the same way. But the particular island here described is completely volcanic; and its circular crater bears a very striking resemblance to that of the Island of Amsterdam, or, as it is called by some, St. Paul, in the mid-ocean between the Cape of Good Hope and Australia.]

The shape of both, too, is so like that of the lagoons which are met with in nine-tenths of the numerous low coral islands that are scattered over the intra-tropical portions of the Pacific, as to give a colour to an opinion I was led to form many years ago, that these extraordinary fabrics, the creation of minute marine worms, are for the most part based on the edges of sub-marine volcanic craters, rising sufficiently near the surface to allow these creatures the requisite light and heat to carry on their wonderful operations, creating perpetually new islands. And this consideration may perhaps give additional interest to the paper immediately following that here subjoined; which, as minutely describing one of these coralline formations, is thus, in some degree, connected with the two preceding it.—JOHN BARROW.]

5th January, 1829.—The partial clearing of the fog brought to view the desolate lands of Shetland. The first that was descried was the mountainous island, the westernmost of the group, called, after its discoverer, Smith's Island; and a more dreary aspect of rugged barrenness I never beheld. It rises abruptly from the water's edge, and in the centre towers to the height of between

six and seven thousand feet, and might readily be mistaken for a mighty iceberg, but for a few patches where the sides—too perpendicular to retain the snow with which the island is elsewhere covered—allow the blackness of the rock to become more conspicuous, from the contrast with the dazzling whiteness of the surrounding scenery. Icebergs, in great numbers, were strewed in every direction around; no fewer than eighty-one were counted at one time. A heavy tide rip or race was running; and the height of the land—to which we had approached much more closely than we should otherwise have ventured, in consequence of the fog—becalmed the sails, which flapped uselessly against the masts, at the same time that the ship was driven to and fro at the mercy of the current.

We were released from this unpleasant dilemma by a strong gale that arose without any sort of warning; but, as it was accompanied by a thick fog, the most unwearied vigilance and most active measures were necessary to avoid running foul of the numerous masses of ice by which we were conscious of being surrounded.

In the course of the following afternoon, a partial clearing of the fog showed us more land extending along the S.E. horizon. Like Smith's Island it was only distinguishable from the numerous icebergs by which it was surrounded, by the towering height of its mountains, and by the black fringe of rocks that skirted the water-line. On the next morning it was beautifully clear, and so much land was visible, that, in the absence of accurate hydrographical information, we were at a loss to decide on our situation, until the peaks of Smith's Island were recognized in the N.W. quarter at the distance of sixty-five miles. At this time the vessel was surrounded by vast multitudes of whales, penguins, and birds of the petrel tribe, who appeared, by their sportive gambols, fully aware of the propriety of making the best use of the few moments of fine weather allotted them by the niggard season of this desolate region.

This interval of fine weather admitted of the ship's place being determined; and in the afternoon, being abreast of a projecting headland, Captain Foster and myself left the ship with the view of effecting a landing, and taking possession of what we were aware was a new discovery.

On reaching the cape the surf was found so violent that we could only effect our purpose by entering one of the numerous inlets that presented themselves, and even then it was a task by no means easy,—the land being composed of a collection of needle-like pinnacles of sienite, covered with snow, and only accessible by watching an opportunity of jumping from the boat during the recession of a wave. A copper cylinder was deposited at the

landing-place, enclosing a paper with the usual information; and the requisite bearings having been obtained, we returned to the ship, whose course was then directed for Deception Island, which the accounts of the sealing vessels pointed out as affording the best harbour in South Shetland.

Possession Cape is situated in $63^{\circ} 46' \text{ S.}$, and $61^{\circ} 45' \text{ W.}$ We procured specimens of its rock, and a small quantity of red snow, similar to that which had been met with in the arctic regions.

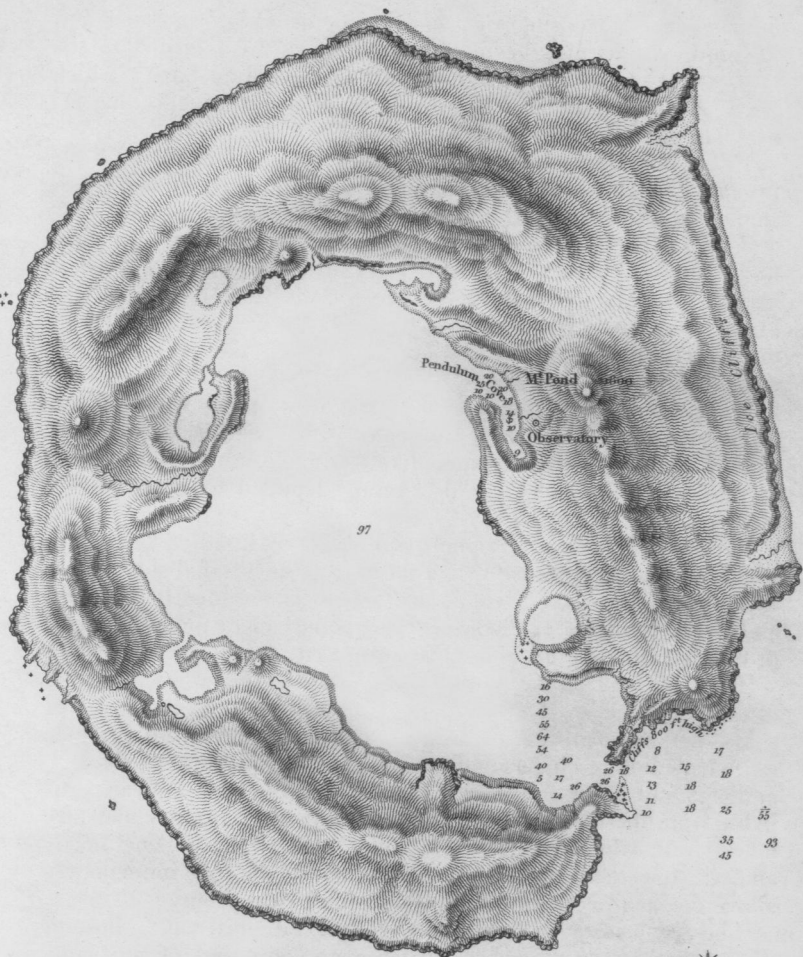
The Island of Deception was seen on the next day,—its position being indicated by an insular peak near it, to which the sealers have applied the appropriate name of Sail Rock. The resemblance to a vessel was indeed so perfect that we found it difficult to divest ourselves of the sensation to which the presence of a consort naturally gives rise.

Deception Island presents a different appearance from the rest of the group. The warmth of the soil and the blackness of the cinders make it appear more like terra firma than the other islands, and its rocks are also more denuded of their snowy mantle.

On the S.E. side is an opening of about six hundred feet wide, which affords an entrance to a kind of lake or internal sea. This lake, whose diameter is about five miles, is very nearly circular; and as the diameter of the island itself is only eight miles, the land of course forms a kind of annulus around it.

The principal part of the island is composed of alternate layers of ashes and ice, as if the snow of each winter, during a series of years, had been prevented from melting in the following summer by the ejection of cinders and ashes from some part where volcanic action is still in progress; and that such is the case appears probable from the fact of there being at least one hundred and fifty holes, from which steam was issuing with a loud hissing noise, and which were visible from the top of one of the hills immediately above the small cove where the Chanticleer was secured.

The depth of the lake was ninety-seven fathoms, with a bottom of cinders; and the beaches, which were composed of the same material, abounded with springs of hot water, which afforded the extraordinary spectacle of water, at the temperature of 140° , issuing from beneath the snow-clad surface of the soil, and running into the sea, which rarely exceeded the freezing point. Alum was procured from some of these springs, and the lee shore of the lake was strewn with immense quantities of pumice-stone. The hills, whose height was about one thousand eight hundred feet, were principally tufa, scorïæ, and a red brick-like substance; but in some places points of obsidian and hard compact lava were seen. The cliffs on the northern side of the entrance rise perpendicularly to the height of eight hundred feet, and appear to be of



DECEPTION ISLAND

New South Shetland,

by Lieut. E.N. Kendall,

1829.

Observatory.

Latitude $62^{\circ} 55' S.$
 Longitude $60^{\circ} 29' W.$
 Variation $23. 0 E.$

Scale

10 Cables 0 1 2 3 Geogr. Miles

older formation than the remainder of the island. From them a small rock juts out, and bears on its summit a most ridiculously striking likeness to a cock, which seemed, with outspread wings, to hail the arrival of another 'Chanticleer.'

The island is inhabited by penguins, from whose rookeries proceeded a most deafening din, saluting the ears of the passenger in the most discordant notes. Our principal amusement, during the intervals of relaxation from labour, was to watch their motions, for their attitudes were excessively ludicrous, and their curiosity unbounded; and though so constantly before us, we always enjoyed a hearty laugh on visiting the rookeries for the purpose of procuring some of them for food. They remained still until knocked down with a stick, but then 'did battle' most manfully with their beaks and flippers. I should suppose, that in the early part of December, two such vessels as the Chanticleer might have been easily loaded with their eggs; but at this time the young were nearly fledged, and the noise, dirt, and stench proceeding from their abodes were almost insupportable.

Besides the penguins, we found sea-leopards, Port Egmont hens, pintados, and various kinds of petrels, who bred in the rocks. There was nothing in the shape of vegetation except a small kind of lichen, whose efforts are almost ineffectual to maintain its existence amongst the scanty soil afforded by the penguins' dung.

Several sea-leopards were killed during our stay; but they differed from those described by Mr. Waddell, in having much shorter necks and hairy flippers. They have also a vein of most extraordinary dimensions in the stomach, which was supposed by our medical gentlemen to afford a receptacle for such a quantity of blood as would enable them to continue a very long time under water while in pursuit of their prey. We found fish in their stomachs, but all attempts with the seine were unsuccessful.

It was three days after our arrival before we could place the ship in safety, from the violence of the gales, and from the ground being entirely composed of cinders, in which the anchors had no hold. She was at length secured in a small cove, and we lost no time in erecting the observatories—well knowing that our operations were limited by the season.

It was, however, cheerless work. The fogs were so frequent that, for the first ten days, we saw neither sun nor star; and it was withal so raw and cold, that I do not recollect having suffered more at any time in the arctic regions even at the lowest range of the thermometer. When to these discomforts is added, that the short allowance, to which we had been reduced, barely formed sufficient for a healthy man's breakfast, you may judge whether what we have accomplished has not been *à la force*. I assure you

we were perfectly ravenous, so much so, that on a moderate calculation, upwards of seven thousand penguins were eaten during our stay, which nothing but the most absolute necessity could have induced us to touch; and even portions of the sea-leopard, fried in their own blubber, were accounted palatable food. Notwithstanding this, we did our work; and, being allowed a boat and four men, I surveyed the island, sleeping at night on the cindery beach, with no other covering than a canvass tent.

During the survey, several timbers of a ship of large dimensions were seen on the N.E. side of the island, half buried in the sand, together with some casks and iron hoops; and on the edge of a small cove we also found various relics of former visitors—probably sealers, as there were buildings whose blackened surfaces exhibited the action of fire. Having observed a mound on the hill immediately above this cove, and thinking that something of interest might be deposited there, I opened it; and found a rude coffin, the rotten state of which bespoke its having been long consigned to the earth, but the body had undergone scarcely any decomposition. The legs were doubled up, and it was dressed in the jacket and cap of a sailor, but neither they nor the countenance were similar to those of an Englishman. The stones were replaced, and a post erected, with a notice, in hopes of protecting this humble monument from further intrusion.

On a point of the cove in which the ship was secured, we buried a register thermometer, so that any future visiter might become acquainted with the extreme ranges of temperature in this climate.

We took the hint of the freezing over of the cove, and effected our retreat, with much difficulty and severe labour, from the fury of the gales, whose violent gusts had before blown down all our tents, and broken many of the instruments. We quitted it on the 8th of March, just two months from our arrival, amidst the acclamations of thousands of penguins, who croaked a most discordant chorus; and indeed it was a day of rejoicing to us also when the shores of Deception faded from our view.

VII.—*Account of the Cocos, or Keeling Islands.* Transmitted by Rear-Admiral Sir E. W. C. R. Owen, K.C.B., and communicated by John Barrow, Esq., F.R.S. Read 24th January, 1831.

THE Cocos or Keeling Isles extend from 12° to 12° 14' S. latitude, in 97° 4' E. longitude; and are now in the occupation of two English gentlemen, Alexander Hare, Esq., and Captain J. C. Ross, who have undertaken to cultivate and render them productive. So far as appears, they are entirely coralline in their